

Be Bear Aware
Black Bear Public Education Program



Florida Fish and Wildlife
Conservation Commission



Pandion Systems, Inc.

**Funded through a grant from the
Wildlife Foundation of Florida.**

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Executive Summary

Background

The Florida Fish and Wildlife Conservation Commission (FWC) conducted a Be Bear Aware (BBA) education campaign for the Wekiva region of Seminole County, Florida. The Wekiva Protection Area is fringed on the east side by high-end subdivisions that, as a result of their location and resident behavior, have experienced many human/bear conflicts. As residential development has increased, so have the nuisance bear reports. Many bears have been trapped, tagged, and relocated because of their behavior, and several have been euthanized when dangerous behavior is continuously exhibited and relocation proved to be unsuccessful. The FWC is concerned about the number of calls it is receiving about bears and about the bear attractants that are present within the Wekiva communities, such as: garbage left out overnight, unsecured/unclean barbecue grills, and outdoor pet food dishes.

In order to decrease the number of human/ bear interactions FWC has implemented the Be Bear Aware campaign. Be Bear Aware consists of print media, videos, and presentations designed to inform Wekiva area residents about bear behavior and ways that residents can discourage bears from entering their neighborhood. In order to assess the success of the education campaign, FWC contracted Pandion Systems to conduct research on the effectiveness of the program. Pandion designed a study to measure the impact of the Be Bear Aware program.

Methods

The study included a needs assessment, baseline survey, behavioral observations, and a post-program survey. These were conducted during the project to determine the level of effectiveness of the distribution of BBA materials and BBA community education classes. The following are the steps implemented in the project:

- Pandion conducted a needs assessment of all communities involved in the BBA program prior to beginning the research to determine the best way(s) to deliver BBA information to each community.

- Following the needs assessment a baseline survey was conducted to determine residents' knowledge, attitudes, and behavior regarding bear/human interactions.
- Behavioral observations were conducted in the communities prior to distribution of BBA materials to determine if people were engaging in behaviors that would attract bears. Observations were conducted in the same areas following the distribution of educational materials to determine if behavior changed after the receipt of educational materials.
- Following the baseline survey and behavioral observations, Be Bear Aware materials were distributed to randomly selected neighborhoods.
- Bear education classes were held for community members both before and after the distribution of materials.
- Following the selected distribution of materials, a post-survey was conducted to determine if those receiving materials and classes had a heightened knowledge of black bears or if they had changed their behavior in any way as compared to those who had not received the materials.

Conclusions

Overall, the Be Bear Aware project was a success. Increased community awareness and positive behaviors make the BBA project something that should be molded and expanded for the future. There were some changes in attitudes towards and behavior around bears following the distribution of the BBA packages. Many of the recipients of the information told researchers they did not even know bears lived in their area prior to receiving the BBA information. Considering this was a one-time distribution, the results are promising. Some of the results of the program include:

- Key knowledge measures showed between a 5% and 24% increase in understanding of ways to prevent bear/human interactions;
- Forty percent of those who reported receiving the bear information also reported that they changed their behavior as a result of getting the information;
- Residents who received the BBA package showed a 7% increase in reported proper garbage storage;

- There was no change in knowledge about what to do when encountering a bear- this is probably due to the very high number of participants (83%) who already knew what to do, and;
- Residents are still unclear about what happens to a bear that repeatedly exhibits dangerous nuisance behavior (euthanasia). This is a subject that should be addressed more thoroughly in future education efforts.

Tailoring the message and method of delivery, and providing incentives for proper behavior will help create a more effective message that is understood and adopted by a larger audience. Looking at the results of the research, the following is recommended for improving the BBA program in the future:

- Distribute bear information via direct mail;
- Use a flier or brochure as the main information source;
- Have concise, targeted points in the literature that consistently address the topics you want recipients to know;
- Provide incentives to residents such as certificates to sign and stickers for garbage cans to encourage proper behavior in bear country;
- Provide a resource for recipients to get additional information on bears so that those who are interested can learn more – especially web-based help, and;
- Mail out information several times per year to target communities- especially before and during “bear season;”

With the growth of Florida’s population comes many wildland/urban interface issues such as bear/human interactions. Bear/human conflicts are a key issue that needs to be addressed continuously as developments encroach on wildlife habitat. Public education helps land managers create a balance between ecological and human needs. It also helps create an understanding and support for the wildlife and wild areas many residents do not even realize exist right outside their homes.

Project Description

The Florida Fish and Wildlife Conservation Commission (FWC) conducted a Be Bear Aware (BBA) education campaign for the Wekiva region of Seminole County, Florida. The Wekiva Protection Area is fringed on the east side by high-end subdivisions that, as a result of their location and resident behavior, have experienced many human/bear conflicts. As residential development has increased, so have the nuisance bear reports. Many bears have been trapped, tagged, and relocated because of their behavior, and several have been euthanized when dangerous behavior is continuously exhibited and relocation proved to be unsuccessful. The FWC is concerned about the number of calls it is receiving about bears and about the bear attractants that are present within the Wekiva communities, such as: garbage left out overnight, unsecured/unclean barbecue grills, and outdoor pet food dishes.

In order to decrease the number of human/ bear interactions FWC has implemented the Be Bear Aware campaign. Be Bear Aware consists of print media, videos, and presentations designed to inform Wekiva area residents about bear behavior and ways that they can discourage bears from entering their neighborhood. In order to assess the success of the education campaign, FWC contracted Pandion Systems to conduct research on the effectiveness of the outreach. Pandion designed a study to measure the impact of the Be Bear Aware program.

Methods

Needs assessment

Pandion conducted a needs assessment of all communities involved in the BBA program prior to beginning the research to determine the best way(s) to disseminate information to each community.

Baseline Survey

Following the needs assessment a baseline survey was conducted to determine residents' knowledge, attitudes, and behavior regarding bear/human interactions. The baseline

survey was pilot tested on 35 respondents to ensure that data collected was valid and reliable. The baseline survey was then conducted via phone interviews using a randomly selected representative sample of the target population. When the survey team reached 150 responses, there was a pause in the surveying to assess the variability of responses and the margin of error of the survey responses. Our survey goal was to attain $\leq 5\%$ margin of error on most questions. A 5% margin of error was reached with 165 respondents.

Behavioral Observations

Behavioral observations were conducted in the communities to determine if people were engaging in behaviors that would attract bears. The behavior observed was storage of garbage. Neighborhoods were observed the evening prior to the day of garbage collection. Outside or unsecured storage of household garbage was recorded (placing garbage out the night prior to garbage pickup is cited as one of the major attractants to bears in the region). Observations were conducted in the same areas following the distribution of educational materials to determine if behavior changed after the receipt of educational materials.

Materials Distribution, Post-survey, Treatment and Control Groups

Following the baseline survey and behavioral observations, Be Bear Aware materials were distributed to randomly selected neighborhoods that were part of the 27 subdivisions in the Wekiva region identified for the project, reaching approximately 50% of the homes in this group. This group that received information became the treatment group. Bear education classes also were held for community members in the treatment group. Following the selected distribution of materials, a post-survey (telephone interview) was conducted to determine if those receiving materials and classes (treatment group) had a heightened knowledge of black bears or if they had changed their behavior in any way as compared to those who had not received the materials. The group that did not receive materials or classes was considered the control group. Following the research, all of the untreated control subdivisions received BBA information and presentations.

Table 1: List of subdivisions, number of homes, and whether they were in the treatment or control group for the Be Bear Aware project.

Subdivision	Number of Homes	Treatment (T) or Control (C)
Wingfield North	116	T
Alaqua	200	T
Heathrow Woods	200	T
The Springs	880	T
Whispering Winds	45	T
Sabal Point	585	T
Sandy Oaks Place	15	T
Parson Road	27	T
Springs Landing	160	T
Hanover Woods	85	T
Markham Place	37	T
Markham Oaks	18	T
Shannon Downs	30	T
River Crest	120	T
Foxspur	55	T
Shady Oaks	90	T
Berry Bush Lane Estates	NA	T
Dunshee Drive	7	T
Alaqua Lakes	320	C
Fountainhead	13	C
Magnolia Plantation	250	C
Wingfield Reserve	185	C
Sweetwater	1390	C
Markham Ridge	7	C
Stonewood Farms	8	C
Manchester Oaks	14	C
Arlington Park	13	C

Survey Protocol

A telephone survey was used for the Be Bear Aware program because it is the quickest and most reliable way to reach a selection of area residents and garner their opinions. The telephone surveys were performed in targeted neighborhoods in western Seminole County identified by the Florida Fish and Wildlife Conservation Commission. The

neighborhoods are contiguous to wildlands that are part of the Wekiva River Protection Area and these neighborhoods have been subject to bear visits in recent years.

The telephone survey was performed with a random selection of participants from the entire population of neighborhood residents. The neighborhoods include approximately 5,000 households. In order to best identify residents for the telephone survey, a database of addresses was built for the neighborhoods from Seminole County property appraiser records. The completed database contained over 4,700 records. The database of addresses was then supplied to a contractor who provides telephone numbers for addresses, and a bank of telephone numbers was acquired for the neighborhood residents.

The telephone survey was performed by the University of Florida's Survey Research Center in the Bureau of Economic and Business Research. This professional survey research center performs public opinion and economic surveys on a daily basis in Florida. The center uses a computer-mediated survey research technique that automatically prompts survey researchers through the questions and provides easy answer categories for data entry. The telephone survey results were presented to Pandion Systems in an Excel spreadsheet for analysis.

Bear Liaison Program

Volunteers from each community were recruited for the Bear Liaison program. These volunteers act as an information source about bears for their neighborhood and as a liaison between community members and the FWC. Volunteers received training via a workshop on how to educate the public about bears and how to respond to bear-related complaints.

Results

Pilot Test

The pilot test results (N=35) revealed that respondents understood the survey questions and confirmed that valid data was being gathered. The responses received assisted in understanding the knowledge and actions of targeted communities in Seminole County.

- The pilot survey respondents came from communities throughout the targeted area.
- 100% of respondents felt it was not at all appropriate to provide food for bears
- 94% of the respondents knew that feeding bears is not allowed in Florida
- 85% knew that if you have a close encounter with a black bear, you should back away slowly
- 60% thought that bears that repeatedly exhibit nuisance behavior or become a threat to human safety were moved somewhere else
- The top three things that respondents felt could be done to prevent bears from coming into their neighborhood were:
 - 1) Keep garbage inside
 - 2) Keep pet dishes and food inside
 - 3) Put garbage out the morning of pickup (instead of the night before)
- 62% of respondents who have a barbecue grill keep it inside of a screened area
- 77% of respondents who have a pet keep its food dish inside their home or garage
- 96% of respondents feel that bears are an important part of the Wekiva region

Behavioral Observations

Subdivisions for behavioral observation were selected based on garbage pickup date (garbage pickup on the next day from when researchers were in the area) and accessibility (i.e. not gated). Twenty-seven percent of the target neighborhoods were observed the evening before their garbage pickup. Houses within one-half mile of the subdivision entrance were examined and results recorded. Observers recorded whether trash was put out on the curb or if there was garbage, garbage cans, or grills exposed near the house. Four of the neighborhoods visited during the pre-treatment observations were visited following the distribution of Be Bear Aware materials in December. The smaller number of December visits occurred because of the difference in light availability in December versus September due to seasonal and daylight savings changes. Visits during both times were conducted between 5:15p.m. and 6:15p.m.. The December visit had to be ended by 5:45 due to lack of sunlight. In all neighborhoods observed there was a decrease

in the amount of garbage or attractants, except for Parson Road neighborhood. Results are as follows:

Table 2: Observations of garbage and other bear attractants in the front or side of homes in Be Bear Aware research area.

Subdivision	Number of houses with trash outside prior to BBA materials	Number of houses with trash outside prior to BBA materials	Percent change between observations
Manchester Oaks	0	Not observed	NA
Parson Road	6	5	-17%
Stonewood Farm	No access, but trash visible	No access, but trash visible	NA
Wingfield	4	Not observed	NA
Sandy Oaks Place	3	3	0%
Whispering Winds	4	2	-50%
Markham Place	5	4	-20%
Alaqua Lakes	4	Not observed	NA
Heathrow Woods	4	2	-50%

Bear Liaison Workshop

Two Bear Liaison workshops were conducted on October 15, 2002 and December 19, 2002. They were held from 6p.m.-8p.m. at a centrally located church. Nineteen participants from 13 subdivisions attended the sessions. One of the subdivisions was not in the original target area, but was located in a nearby area with bear issues. Forty-eight percent of the target subdivisions now have Bear Liaisons, and three subdivisions have more than one. The liaisons are community members and, in some cases, property managers for the subdivisions. All liaisons received a notebook of bear information regarding bear behavior and appropriate responses to bear incidents. Liaisons also received brochures to hand out to community members and hats to wear to let neighbors know about the program.

Survey Results

Surveys were conducted in two phases. The baseline survey was conducted in September 2002 and the desired margin of error (5%) was reached with 165 respondents. The post program survey was conducted in December 2002, following distribution of materials to selected subdivisions, and the desired margin of error (5%) was reached with 250

respondents. Post survey respondents were from both the treatment and control groups. Those in the subdivisions that received BBA information packages were the treatment group and those who received the BBA package after the research was complete were the control group. Of the 250 randomly selected post-survey respondents, 92 were in the treatment group and 158 were control.

Treatment group results

The treatment respondents were from nine of the seventeen subdivisions in the treatment group. Table 3 shows the breakdown of the subdivisions.

Table 3: Treatment group subdivisions. N= 92 individuals

Subdivision name	# of homes in subdivision	% respondents from subdivision
Alaqua	200	4%
Foxspur	55	3%
Hanover Woods	85	4%
Markham Place	37	3%
River Crest	120	11%
Sabal Point	585	54%
Springs Landing	160	9%
Wingfield North	116	5%
Heathrow Woods	200	4%

Seventy-one percent of those interviewed from the treatment group reported receiving, hearing, or reading information about bears in September through November of 2002 (Table 4). Of those who reported getting some type of information about bears (n=65), 64% remember receiving the BBA packet. This result could be for a number of reasons. Although every house in the treatment group received a BBA packet, the packet may not have been shared with all household members, therefore the person who responded to the phone interview may not have been someone who saw the packet. Another reason for this number could be because even though a respondent may have remembered that they received information about bears, they may not have remembered that the education package was called Be Bear Aware.

Nineteen percent said they received some type of information on bears from the Florida Fish and Wildlife Conservation Commission. Forty six percent said they read something in their neighborhood newsletter. Very few people (8%) reported having gone to a bear information session, although the sessions were advertised in all BBA packages and were offered several times.

Table 4: Bear information received by treatment group participants who reported hearing or reading something about bears during the study period. Note: Percentages do not add up to 100% because respondents could put down more than one answer. N= 67

Type of information	Respondents who answered yes
Received the Be Bear Aware packet	64%
Someone talked to me about bears	52%
Read something in the newspaper	52%
Read something in my neighborhood newsletter	46%
Saw something on TV	39%
Received a brochure about bears	27%
Received info from Fish and Wildlife	19%
Went to info session	8%
Attended Black Bear festival	5%
Participate in Bear Liaison program	2%
Other	22%

Respondents who reported receiving the BBA package were then asked questions about the information in the package. They were asked about each item in the package and whether they had read or used it (Table 5). Although several people specifically mentioned the *Understanding Human/Bear Conflicts in Florida* video when asked about bear information they had received, only 37% indicated that they had actually watched the video. The majority of respondents (84%) had read the fliers *Bears and Human Food Attractants* and/or *If You See A Bear in Your Community*. Sixty-seven percent of respondents had read the *Living in Bear Country* brochure. Respondents who indicated that they shared their BBA information with others were asked with whom they shared it. Of the 29 people that reported sharing the information, 35% shared it with a neighbor, 87% shared it with a family member, and only 7% said they shared it with their homeowners' association.

Respondents were asked to tell something they learned from the BBA package that they did not know before. Responses were varied, but several people reported that they learned that they should keep their pets' food inside. Some reported that they learned to keep garbage locked up and that they didn't know that bears could smell food from a mile away. Others reported that they learned that no one had ever been killed by a bear in Florida. A couple of people said they learned not to run from bears. Several people were not even aware that bears were in their area until receiving the information package.

Table 5: Be Bear Aware package items and their use by respondents. Note: Percentages do not add up to 100% because respondents could put down more than one answer. N= 43

Be Bear Aware package item	Respondents who answered yes
Did you read the fliers <i>Bears and Human Food Attractants</i> and/ or <i>If You See A Bear in Your Community</i> ?	84%
Did you read the <i>Living in Bear Country</i> brochure?	67%
Did you share any of the information you received in your packet with anyone?	67%
Have you placed your bear-shaped magnet in a visible place?	49%
Did you watch the <i>Understanding Human/Bear Conflicts in Florida</i> video?	37%

Of the 65 people that reported receiving bear information, 40% said that they had changed their behavior as a result of what they learned. Survey participants were asked what behaviors they had changed as a result of what they learned about bears between September and November 2002 (Table 6). Their responses were open-ended (not prompted) and were later categorized by researchers. The largest reported behavior change relates to garbage storage and pickup. Forty-one percent of respondents who reported a behavior change said they now keep their garbage inside. Thirty percent of the behavior change respondents said they now put their garbage out on the morning of pickup instead of beforehand. Fifteen percent remove bird feeders if bears are in the area.

Respondents were asked about the most effective way to deliver information about bears. The most frequent response (39%) was mailing to home. Presentations to special

organizations was not chosen at all as the best way to get information about bears. Only 14% said that TV was the best way to get information about bears. Many respondents indicated that the Internet was a good way to get the information (Other- 8%).

Table 6: Behaviors respondents reported changing because of learning more about bears in September- December 2002. Note: Percentages do not add up to 100% because respondents could give more than one answer. N= 27

Behavior changed due to learning about bears	Percent of respondents who indicated they changed this behavior
Keep garbage inside	41%
Put garbage out in morning for pickup	30%
I am more careful when I am outside	22%
Keep pets indoors when a bear is in the area (keep pet indoors).	15%
Remove bird feeders if bears are in the area	15%
Keep garbage cans closed/sealed	11%
Won't feed bears	11%
Keep grills clean/outside	11%
I learned to back up slowly and not run from bears	11%
I am more careful when I see a bear	11%
Keep pet dishes and food inside	7%
Use bear proof garbage containers	4%
Installed wood or chain fence	4%
Removed water source(s)	4%
Protect garden/fruit trees/compost/livestock with electric fence	0%
Removed fruit trees	0%
Other	22%

Table 7: Answers to the question: What is the best way to get important information to you about bears? N= 91

The best way to get information to participants about bears	Percent of respondents who indicated this was their most preferred method
Mail to my home	39%
Homeowner's association newsletter	15%
Television	14%
Newspaper	12%
Delivered to my home by hand	9%
Radio	2%
Presentation to special organization	0%
Other (Internet)	8%

Participants were asked to tell which ways they could best learn about bears (Table 8). Fifty-two percent said a brochure. Forty-one percent said they would want to learn about bears from television, although only 14% indicated that this was the best method of delivery for bear information. Fifty-four percent said that a newspaper was a good way to learn about bears, although only 12% felt that the newspaper was the best way to get information out about bears. Presentations still scored low, with only 15% favoring them. In the Other category (20%) many people again mentioned the Internet as a good resource for learning about bears.

Table 8: Answers to the question: What is the best way for you to learn more about bears? N=92. Answers do not add up to 100% because respondents could give more than one answer.

The best way to learn more about bears	Percent of respondents who indicated this was a preferred method
Newspaper article or advertisement	54%
Brochure	52%
Television advertisement	42%
Television show	41%
Video	24%
Presentation	15%
Other	20%

Treatment and baseline data compared

Surveys were conducted in two phases. The baseline survey was conducted in September 2002 with 165 respondents. The post program survey was conducted in December 2002, following distribution of materials to selected subdivisions, with 250 respondents. Post survey respondents were from both the treatment and control groups. Those in the subdivisions that received BBA information packages were the treatment group and those who received the BBA package after the research was complete were the control group. Of the 250 randomly selected post-survey respondents, 92 were in the treatment group and 158 were control.

Once the post program survey was completed, the data was analyzed to determine whether there were many differences between the baseline respondents who were

interviewed in September 2002 and the control group respondents interviewed in December 2002. Neither of these groups had received bear education materials at the time they were interviewed, thus making the groups theoretically similar in knowledge level about bears. If there were large differences between the groups then there would be an inference that something occurred between the interview times that changed the respondents' knowledge of and attitudes toward bears. Although there were slight differences on several questions, the baseline and control data were similar enough that it can be assumed there was no major occurrence that could have dramatically altered the respondents' knowledge of or attitudes towards bears. Therefore, post survey treatment group data was compared to the baseline group data because the baseline group contained a greater number of respondents and statistical comparisons would result in more conclusive results.

The income and education level for both baseline and treatment groups was very similar (Table 9). Over 34% had a college degree and 26% held a graduate degree. Over 56% of the baseline and 54% of the treatment group households made over \$80,000 per year. The average age of respondents was 49, 42% of which were female in the treatment group and 51% were female in the baseline group.

Table 9: Respondent demographics

	Baseline Group	Treatment Group
College degree	34%	37%
Graduate degree	26%	28%
% making over \$80,000	56%	60%
Age	45	47
% Female respondents	%51	42%

Both baseline and treatment groups were asked questions about normal black bear behavior (Table 10). The questions were asked to determine respondents' understanding of black bears and to see if they realized that many of the behaviors that black bears in their area exhibit are not normal for a wild animal. The results are mixed. There was a statistically significant difference in the responses to *How likely is it that a bear will*

return to a residential area where it has found food before?, showing that there was an increase in understanding that bears who find food in residential areas are likely to return. There was also a change (though not statistically significant) in the means between groups for *How appropriate is it for people to provide food for bears?*, showing that the treatment group better understood that feeding bears was inappropriate.

The answers for *How common is it for a wild bear to approach areas where there are people?* and *How common is it for a wild bear to cause damage in residential neighborhoods?* did not show an increase in understanding about normal black bear behavior. This could indicate that the participants did not understand what the question was asking, or it could show that these responses indicate areas where more public education is needed. Respondents felt it was relatively common for a wild bear to approach residential areas showing that they did not understand that wild bears generally avoid people. Although respondents indicated that they felt it was fairly uncommon for wild bears to cause damage in residential neighborhoods, the mean actually increased for the treatment group, indicating that they felt this behavior was more normal than the baseline group did.

Table 10: Responses to statements about bears. Means are based on a 5 point Likert-type scale where 1= Not at all and 5= Very. * indicates significance at the .05 level.

Statement	Baseline Mean	Treatment Mean	Significance
How common is it for a wild bear to approach areas where there are people?	3.04	3.47	*
How likely is it that a bear will return to a residential area where it has found food before?	4.44	4.75	*
How common is it for a wild bear to cause damage in residential neighborhoods?	2.77	2.92	
How appropriate is it for people to provide food for bears?	1.12	1.08	
How likely is it that trapping and moving a bear to a different location will stop a nuisance bear from continuing to be a problem?	3.66	3.45	

The respondents from the treatment group who indicated they had read the fliers *Bears and Human Food Attractants* and *If You See A Bear in Your Community?* were compared to the baseline survey to determine if the people who read the fliers had any better grasp of the information than those who did not. The fliers were the most used portion of the BBA package and clearly stated that bears can cause damage when rewarded with food, bears should not be fed, bears return to areas where they get food, and bears that are repeat nuisances are often killed. Answers to the question *How likely is it that trapping and moving a bear to a different location will stop a nuisance bear from continuing to be a problem?* were compared for both groups. Although not statistically significant, the group that read the flier had a mean of 3.40, showing that they felt there was less likelihood that trapping and moving a nuisance bear would be successful.

The largest difference between the flier-reading group (a subset of the treatment group) and treatment and baseline groups was with the question *How likely is it that a bear will return to a residential area where it has found food before?* The flier-reading group had a mean of 4.83 on a scale of 1-5 where 1=not at all and 5= very, for this question. This mean is higher than the entire treatment group (3.45) or the baseline group (3.66).

When asked whether bear feeding was allowed in Florida, 91% of the baseline group and 94% of the treatment group said that bear feeding was not allowed. Although most respondents in the baseline group knew that feeding was not allowed, even more were aware of this following bear education efforts.

When asked what to do if encountering a bear, 83% of both baseline and treatment groups responded correctly saying that you should back away slowly (Table 11). No one in the treatment group said that giving the bear food was a proper response. Less people in the treatment group said that running was a correct response to a bear encounter.

Table 11: Respondent answers about what to do if a bear is encountered. Answers are shown according to percentage of respondents that gave that answer.

<i>If you have a close encounter with a Florida black bear you should:</i>		
Response	Baseline	Treatment
Back away slowly	83%	83%
Chase the bear away (make noise, scare it)	3%	6%
Run	3%	2%
Give it food	2%	0%
Other	2%	0%
Play dead (lie down, freeze, do nothing)	7%	9%

Responses to the question *What happens to a bear that repeatedly exhibits nuisance behavior or becomes a threat to human safety?* were mixed (Table 12). Fifty-five percent of the treatment group thought that repeat nuisance bears were relocated and only 36% realized that these bears are often killed. These were the responses despite the fact that 84% of these participants indicated that they had read the *Bears and Human Food Attractants* flier which states bears that repeatedly exhibit nuisance behavior or become a threat to human safety are euthanized. This misunderstanding indicates that this is an area that needs to be addressed more thoroughly in future education efforts.

Table 12: Responses to question about what happens to a nuisance bear.

<i>What happens to a bear that is repeatedly exhibits nuisance behavior or becomes a threat to human safety?</i>		
Response	Baseline	Treatment
Moved somewhere else	47%	55%
Killed	43%	36%
Nothing	2%	0%
Other (record their answer)	2%	4%
Don't know	1%	4%

Respondents were asked to name three things that attract bears to areas where people live. The question was open-ended and responses were coded and put into one of the categories identified by researchers. Results are displayed in Table 13, divided into first, second, and third responses. The most often used response was *trash left out* (66% baseline and 70% treatment) and *pet food dishes* (36% baseline and 51% treatment).

There is a large increase in the number of respondents who gave the answer *pet food dishes*, indicating that they may have learned this from the materials received. Many respondents said they learned to *Keep pet food dishes inside* from the materials they received and this is reflected in all three of the treatment group's responses with 19% and 13% respectively giving this as their second and third answers.

The category *food* was included for participants who said that food was an attractant for bears, but could not name a specific food source. The percentage of participants who could not name a specific food source (indicating they only knew food attracted bears-not what kind of food) greatly decreased from baseline (30%) to treatment (12%). This information, combined with an increase in the number of respondents who could name types of food that would attract bears shows that people were more able to name specific types of food sources that attract bears after receiving BBA materials. The number of respondents who could not give an answer (don't know) decreased from 47% in the baseline survey to 41% in the treatment survey. This may indicate that black bear education assists with people's understanding of what humans do to attract bears to their neighborhoods.

Respondents were asked to name three things that can be done to prevent bears from coming into their neighborhood. The question was open-ended and responses were coded and put into one of the categories identified by researchers and by the pilot test recipients. Results are displayed in Table 14, divided into first, second, and third responses. The most common response was *keep garbage inside* (45% baseline, 69% treatment). The increase in responses between baseline and treatment for this answer may indicate that this is an area covered well by the BBA materials. The second most popular response was *keep pet food dishes inside* (29% baseline and treatment). Although only 4% of baseline respondents gave *bird feeders* as a second answer, 10% of the treatment group gave this answer second, suggesting that they had learned about bird feeders being potential bear attractants.

Twenty-nine percent of baseline and 25% of treatment respondents said that bears can be prevented from coming into neighborhoods if you *don't feed bears*. The responses suggest that some in the treatment group learned specific ways to prevent bears from entering neighborhoods and gave a more specific answer instead of *don't feed bears*. Treatment group respondents gave *keep garbage inside* as their first answer 51% of the time, up from the 37% of the baseline group that gave this answer. *Keep garbage inside* was said more often as a second answer as well, with 17% of the treatment group vs. 6% of the baseline group naming it. *Keep garbage cans closed or sealed* was an answer given less (27% of baseline and 8% of treatment) by treatment group respondents. Since keeping garbage cans closed or sealed will not actually prevent a hungry bear from getting into garbage, this is a positive result.

Participants were asked about their garbage, grill, and pet food storage to see what their actual behaviors were regarding bear attractants (Table 15). Garbage storage showed a significant change between baseline (77% put inside) and treatment (84% put inside). Barbecue grill storage showed very little change between baseline and treatment. Pet food storage actually showed a decrease in the percentage of respondents that stored pet food indoors from baseline to treatment even though many respondents said that after reading the BBA package they learned that pet food should be stored indoors. A larger percentage of respondents in the treatment group put their garbage out the morning of garbage pickup rather than the night before (64% baseline, 67% treatment). Of the people in the treatment group who said they received the BBA package, 71% said they put their garbage out the morning of pickup, showing that those who received the BBA package reported engaging in more responsible bear-related behavior than those who did not.

Respondents were asked their feelings regarding specific statements about bears (Table 16). There was a statistically significant difference between the baseline and treatment group's answers to *My actions affect whether bears are attracted to my house*. This is supported by the increase in knowledge following treatment about what attracts bears to areas where people live. Respondents in the treatment group felt more strongly that *their actions can create problem bears* and that *they have a responsibility to keep bears wild*.

More of the respondents in the treatment group felt that *bears should be removed from (their) neighborhoods*.

Table 13: What participants feel attracts bears to their area. Not all respondents gave three answers and the percentages represent the percent of respondents who gave an answer in relation to all respondents who answered the question- therefore the percentages in each column do not add up to 100%. The difference in the first responses of the two groups is significant at the .05 level.

<i>List 3 things that attract bears to areas where people live.</i>						
What attracts bears to areas where people live?	Baseline respondents			Treatment group respondents		
	First Answer	Second Answer	Third Answer	First Answer	Second Answer	Third Answer
Trash left out	53%	10%	3%	53%	13%	4%
Barbecue grills	1%	6%	4%	7%	11%	7%
Pet food and dishes	13%	17%	6%	19%	19%	13%
Bird feeders	2%	4%	3%		10%	3%
Water source (inc. pools)	3%	7%	5%		6%	6%
Other	4%	10%	6%	7%	10%	10%
Humans encroaching on habitat	4%	6%	6%	6%	7%	7%
Other bears (breeding)	5%	3%	3%		1%	1%
Not enough food in the wild for bears	3%	5%	5%	4%	2%	2%
Don't Know	1%	17%	29%		14%	27%
Food (marked only if respondent said food and couldn't think of any specific food source)	15%	11%	4%	4%	4%	4%
Fruit trees		3%	1%		1%	1%
Gardens		1%	1%		2%	2%
Compost piles			2%			
Livestock		1%	1%	1%		
Freezers						

Table 14: What participants feel could prevent bears from coming into their neighborhood. Not all respondents gave three answers and the percentages represent the percent of respondents who gave an answer in relation to all respondents who answered the question- therefore the percentages in each column do not add up to 100%. The difference in the third responses of the two groups is significant at the .05 level.

List 3 things that can be done to prevent bears from coming into your neighborhood.

Topic	Baseline respondents			Treatment group respondents		
	First Answer	Second Answer	Third Answer	First Answer	Second Answer	Third Answer
Keep garbage inside	37%	6%	2%	51%	17%	1%
Don't feed bears	10%	12%	7%	11%	12%	3%
Keep grills inside		3%	2%	1%	2%	7%
Keep pet dishes and food inside	10%	15%	4%	8%	17%	4%
Remove bird feeders if bears are in the area	1%	4%	2%	1%	4%	4%
Protect area with electric fence	3%	1%	1%	1%		
Don't have fruit trees			1%		1%	
Use bear proof garbage containers	2%	3%	2%	1%		
Put garbage out in morning for pickup	6%	4%	1%	6%	2%	2%
Other	8%	9%	4%	3%	11%	9%
Wood or chain fence	7%	4%	2%	3%	6%	
Don't live near bears	4%	2%	1%	1%		1%
Keep garbage cans closed/sealed	3%	14%	10%	3%	4%	1%
Reduce bear populations (move bears to another area, park, etc.)	1%	1%	1%			3%
Kill/euthanize bears	1%	1%	1%			1%
Keep pets indoors	1%	3%	2%	1%		
Remove water sources		1%	1%			
Have security keep them away (patrol, neighborhood watch)	1%	1%			2%	1%
Don't Know	7%	20%	29%	9%	21%	43%

Table 15: Responses to questions about potential bear attractants. * indicates that the answers are significant at the .05 level.

Questions	Possible responses	Baseline	Treatment	Sig.
Where do you store your household garbage can or bags	Inside the garage or house	77%	84%	
	Outside	20%	10%	*
	Inside a screened area	3%	2%	
	Other	0%	4%	
If you have a barbecue grill, where do you keep it?	Inside the garage or house	11%	11%	
	Outside	22%	18%	
	Inside a screened area	67%	68%	
	Other	1%	4%	
If you have a pet, where do you keep its food dish?	Inside the garage or house	86%	81%	
	Outside	3%	3%	
	Inside a screened area	9%	7%	
	Other	3%	9%	
When do you put your trash out for garbage pickup?	The night before	25%	22%	
	The morning of pickup	64%	67%	
	Right before the garbage truck arrives	10%	9%	
	Other	2%	2%	

Table 16: Responses to statements about bears. Means are based on a 5 point Likert-type scale where 1= Strongly disagree and 5= Strongly agree. * indicates significance at the .05 level.

Statement	Baseline Mean	Treatment Mean	Significance
Bears are an important part of the Wekiva region.	4.41	4.20	
I have a responsibility to help keep bears wild.	4.33	4.42	
All bears should be removed from my neighborhood.	2.82	2.66	
My actions affect whether bears are attracted to my house.	4.10	4.35	*
I support killing chronic nuisance bears.	2.42	2.48	
My actions can create problem bears.	4.00	4.18	

Conclusions and Recommendations

The Be Bear Aware public education project has produced results from which recommendations can be made for future efforts. We would particularly like to focus recommendations on method of information delivery and incentives for behavior change.

Method of Delivery

We found that of the 92 respondents in the treatment subdivisions, only 64% reported receiving the Be Bear Aware information package. Of those that received the package, 84% read the fliers. Thirty nine percent of respondents preferred direct mail as the way to receive bear information and 52% felt that a brochure was the best way to learn about bears.

There were some changes in attitudes towards and behavior around bears following the distribution of the BBA packages. Considering this was a one-time distribution, and many of the recipients of the information told researchers they did not even know bears existed in their area prior to receiving the BBA package, the results are promising. Tailoring the message and method of delivery will probably help create a more effective message that is understood by a larger audience. With this in mind, we recommend the following:

- Distribute information via direct mail
- Use a flier or brochure as the information source
- Have concise, targeted points in the literature that address the topics you want recipients to know
- Provide a resource for recipients to get additional information on bears so that those who are interested can learn more (telephone number and web site address)
- Mail out information several times per year.

The data collected shows that the preferred method of delivery for bear information is via direct mail. The data collected also shows that those who reported receiving the BBA package read the fliers (84%) and brochure (67%). Although they remember getting the

video, only 37% watched it. This indicates that a basic flier or brochure mailed to communities may have more impact than an entire package of information.

The results of the study indicate that people who received BBA materials did have an increase in knowledge in several areas. Concentrating on specific information that FWC wants participants to know will increase the efficacy of these efforts. For example, results show that participants learned that bears are attracted to garbage left unsealed or put out overnight. There was a reported and observed decrease in the number of people in the treatment group who stored garbage outside or put it out the night before for pickup. This suggests that the materials given out addressed this point sufficiently.

If FWC wishes for more residents to understand the need to keep pet food dishes and barbecue grills inside and/or secure, the materials should address this area more directly in future distribution efforts. It is the same with residents' knowledge of what management actions are taken with repeat nuisance bears. These three areas did not show as much of an increase in understanding as garbage storage did, so if FWC desires for residents to increase their awareness in this area, they should ensure that future materials more directly address these subjects.

Delivering Messages Repeatedly

When creating literature to send out to community members, the information should be concise and targeted. Formulating messages or points that are repeatedly delivered would probably get the BBA message out and help people to remember it. Making the points interesting as well will help people grasp the message. For example "Bears can smell food from more than a mile away and if they are able to find garbage in your neighborhood they will learn to return to look for more" or "Any food source that attracts dogs, cats, or raccoons also can attract bears."

Mailing information once will get some of the community members aware of how to live in bear country. The more often the information is mailed, the higher the likelihood that recipients will pay attention to it. Two to three mailings per year-- especially before and

during high activity times for bears – will help community members not only understand the information, but may also remind them that their “Bear Aware” behavior must be kept up at all times.

The Internet as a Resource

When asked about their preferred methods for learning about bears and for receiving information about bears, many of the respondents said that they would like to use the Internet. Providing a bear-related web page with detailed information about ecology and behavior would help those wanting to learn more through their home computers. Since the FWC already has a bear-related website, the desire people expressed for a Florida black bear site indicates two things, 1) The current site needs to be marketed more widely and 2) The current site could have other features added to it to assist with people’s needs.

The website could also serve as a reporting mechanism for people to tell FWC when they have seen a bear in their area. This would cut down on the amount of time FWC staff spends fielding calls about bear sightings and could help answer some common bear questions. This would supplement the Bear Liaison program and could even provide contact information for Bear Liaisons in communities where the Liaison program is in place. The website could also serve as a resource for people to request more bear information, brochures to pass out in their communities, or request certain publications the FWC has available.

Another option for the website is to have a page where people can sign up to be on a list serve that gives updates on bear activity in their community as well as statewide. This registration could also serve as a database in case FWC needs to recruit volunteers for projects such as Bear Liaison.

The website could be used on marketing and information materials related to the program. The site address (<http://floridaconservation.org/bear>) needs to appear on stickers, brochures, etc. in order for people to become familiar with it. The site could even be renamed to something easier to remember such as www.flbearaware.com and could link to the FWC website just as the current address does.

Incentive Programs to Change Behavior

The overall goal of the Be Bear Aware program is to change resident behavior and decrease the number of bear attractants in the communities surrounding the Wekiva Protection Area. The results of the BBA project have shown some indication that people who received the educational materials changed their behavior and increased their knowledge about bears. However, with a situation like this, only a few people can undo all of the efforts of others by leaving out bear attractants and thereby encouraging bears into their community. Because so few can alter the efforts of so many, there needs to be a community-wide effort to encourage people to practice responsible behavior around bears. There are several ways to approach this.

One way to try and achieve community-wide support for the BBA program is to get commitments from residents that they will be bear aware. Research shows that people who sign a commitment are more likely to change their behavior than those who are simply asked to do something (Pardini and Katzev (1983-1984), Geller, Rudd, Kalsher, Streff, and Lehman (1987), Katzev and Johnson (1984), Katzev and Pardini (1987-1988)) With this in mind, we suggest that along with the next mailing of bear information should be a certificate that residents can sign stating that they are bear aware and are careful to keep trash secure, put trash out on the morning of pickup, keep pet food dishes and barbecue grills indoors, and make an effort to keep any bear attractants safely away. The certificates do not need to be mailed back to FWC – there can be something on the certificates that asks residents to display them in their house to let visitors know that they are bear aware and to remind residents of what to do to keep bears away.

Compliance and signing of the certificate will be encouraged with the inclusion of a sticker made for garbage cans. The sticker can say something like “Bear Aware Home” and have the BBA logo on it. This will let others in the neighborhood know that the home is paying attention to bear issues. The garbage can is a solid symbol for the BBA project since those who put stickers on their cans will hopefully put their garbage out the morning of pickup instead of the night before (therefore discouraging bear intrusions). The sticker serves as a constant reminder and also creates some social pressure because it

symbolizes that the home is careful about bears. Those who do not display the sticker will stand out to others on the street. This display of bear awareness will hopefully encourage others to be bear aware as well.

Another option to encourage community participation is to stencil curbs in the community. This may be a more difficult option since the communities in this study were highly regulated subdivisions and the stenciling may not be allowed. Curb stenciling has been employed by many cities as a way to discourage residents from dumping toxins and trash into street drains. Words like “No trash, drains to creek” are used to remind people that their actions can affect a water system they may not directly see when initially pouring something out or dumping what seems to be harmless trash. Something like “Don’t leave garbage to the night bears” or “Be Bear Aware- keep trash secured until the A.M.” could be stenciled with paint on curbs throughout the neighborhood to remind people of what to do.

Overall, the Be Bear Aware project was a success. Increased community awareness and positive behaviors make the BBA project something that should be adapted and expanded for the future. With the growth of Florida’s population comes many wildland/urban interface issues such as bear/human interactions. Bear/human conflicts are a key issue that needs to be addressed continuously as developments encroach on wildlife habitat. Public education helps land managers create a balance between ecological and human needs. It also helps create an understanding and support for the wildlife and wild areas many residents do not even realize exist right outside their homes.

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Appendix A- Baseline Survey Instrument

Black Bear Baseline Survey

Hello, my name is _____ and I am calling on behalf of the FL Fish and Wildlife Conservation Commission and we are conducting a survey about black bears in Seminole County... The group conducting the survey has language they use here in the beginning.

First I need some basic information from you:

- 1) Are you over 18 years of age?

Stop here before any other questions if not 18.

- 2) Gender (can infer or ask if needed).
- 3) What subdivision or neighborhood do you live in? If not in one of these, ask what street they are on.

Subdivisions and streets participating in the study:

Alaqua	Little Wekiva Point	Sandy Oaks Place
Alaqua Lakes	Magnolia Plantation	Shady Oaks
Arlington Park	Manchester Oaks	Shannon Downs
Berry Bush Lane Estates	Markham Oaks	Springs Landing
Dunshee Drive	Markham Place	Stonewood Farms
Fountainhead	Markham Ridge	Sweetwater Springs
Foxspur	Parson Road	The Springs
Hanover Woods	River Crest	Wekiva Park
Island Oaks	Sabal Point	Whispering Winds
Sweetwater Cove	Sweetwater Oaks	Wingfield North
Sweetwater Island		Wingfield Reserve

If respondent lives in a subdivision participating in the study, continue. If not, thank the caller and let them know they are not needed for this research.

Next I am going to ask you some questions about bears. These questions refer to wild bears throughout Florida.

Please answer the following from 1-5 with 1=not at all and 5= very

Statement	Not at all					Very
4) How common is it for a wild bear to approach areas where there are people?	1	2	3	4	5	
5) How likely is it that a bear will return to a residential area where it has found food before?	1	2	3	4	5	
6) How common is it for a wild bear to cause damage in residential neighborhoods?	1	2	3	4	5	

7)	How appropriate is it for people to provide food for bears?	1	2	3	4	5
8)	How likely is it that trapping and moving a bear to a different location will stop a nuisance bear from continuing to be a problem?	1	2	3	4	5

9) True or false: You are allowed to feed bears in Florida.

10) If you have a close encounter with a Florida black bear you should:

- a. Run away
- b. Chase the bear away
- c. Back away slowly
- d. Give it food

11) What happens to a bear that is repeatedly exhibits nuisance behavior or becomes a threat to human safety?

(respondent answers this on their own- mark one answer only)

- a. Killed
- b. Moved somewhere else
- c. Nothing
- d. Other (record their answer)
- e. Don't know

Please give your best answers to the following questions:

12) List 3 things that attract bears to areas where people live.

(respondent answers this on their own- mark all answers they say)

- | | |
|---------------------|---------------|
| Trash left out | Gardens |
| Barbecue grills | Compost piles |
| Pet food and dishes | Livestock |
| Bird feeders | Freezers |
| Fruit trees | Other |

Also record the order of responses and the how many they could list.

13) List 3 things that can be done to prevent bears from coming into your neighborhood.

(respondent answers this on their own- mark all answers they say)

- | | |
|--|---------------------------------------|
| Keep garbage inside | Protect area with electric fence |
| Don't feed bears | Don't have fruit trees |
| Keep grills inside | Use bear proof garbage containers |
| Keep pet dishes and food inside | Put garbage out in morning for pickup |
| Remove bird feeders if bears are in the area | Other (record their answer) |

Also record the order of responses and the how many they could list.

Please let us know how much you agree or disagree with the following statements:

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
14)	Bears are an important part of the Wekiva region.	1	2	3	4	5
15)	I have a responsibility to help keep bears wild.	1	2	3	4	5
16)	All bears should be removed from my neighborhood.	1	2	3	4	5
17)	My actions affect whether bears are attracted to my house.	1	2	3	4	5
18)	I support killing chronic nuisance bears.	1	2	3	4	5
19)	My actions can create problem bears.	1	2	3	4	5

These next questions are about your neighborhood and home:

- 20) Do you store your household garbage can or bags...inside garage or house, outside, inside a screened area, or other? (*Shed (Metal or wood)= Outside*)
- 21) If you have a barbecue grill, do you keep it... inside garage or house, outside, inside a screened area, or other (record answer)? (*Shed (Metal or wood)= Outside*)
- 22) If you have a pet, do you keep its food dish... inside garage or house, outside, inside a screened areas, or other (record answer)? (*Shed (Metal or wood)= Outside*)
- 23) Do you put your trash out for garbage pickup...the night before, the morning of pickup, right before the garbage truck arrives or other (record answer)?
- 24) Ask standard educational level questions.
- 25) Ask standard household income questions for 2001.

Thank you for your participation in the survey.

Appendix B- Post program survey instrument

Black Bear Post Program Survey

These questions were asked at the beginning of the post program survey. Once the questions are complete then the participants are asked the exact same questions contained in the baseline survey.

Hello, my name is _____ and I am calling on behalf of the FL Fish and Wildlife Conservation Commission and we are conducting a survey about black bears in Seminole County... The group conducting the survey has language they use here in the beginning.

First I need some basic information from you:

- 4) Are you over 18 years of age?

Stop here before any other questions if not 18.

- 5) Gender (can infer or ask if needed).
- 6) What subdivision or neighborhood do you live in? If not in one of these, ask what street they are on.

Subdivisions and streets participating in the study:

Alaqua	Little Wekiva Point	Sandy Oaks Place
Alaqua Lakes	Magnolia Plantation	Shady Oaks
Arlington Park	Manchester Oaks	Shannon Downs
Berry Bush Lane Estates	Markham Oaks	Springs Landing
Dunshee Drive	Markham Place	Stonewood Farms
Fountainhead	Markham Ridge	Sweetwater Springs
Foxspur	Parson Road	The Springs
Hanover Woods	River Crest	Wekiva Park
Island Oaks	Sabal Point	Whispering Winds
Sweetwater Cove	Sweetwater Oaks	Wingfield North
Sweetwater Island		Wingfield Reserve

If respondent lives in a subdivision participating in the study, continue. If not, thank the caller and let them know they are not needed for this research.

- 1) Have you received, heard, or read any information about bears in Florida in September through November of this year?
 - a) Yes- if yes, continue with question 2.
 - b) No- if no, skip to question 14
 - c) Don't know, can't remember – *prompt to find out if they really don't know using answers to question 2. If still don't know, go to question 14*

2) If yes: What type of information did you receive? *Read prompts. Mark all answers they say.*

- a) A Be Bear Aware information packet came in the mail or was delivered to my door
- b) Went to an information session about bears
- c) I am in the Bear Liaison program
- d) Received information from the Fish and Wildlife Conservation Commission (they may also think they are the Fish and Game or something similar- all of these get marked as this answer)
- e) Saw something on television
- f) Someone told me about bears/ I spoke with a neighbor, friend, family member about bears
- g) Got a brochure from someone in my neighborhood/ from a friend/ from the property manager
- h) Read something in my neighborhood newsletter
- i) Read something in the newspaper
- j) Attended Black Bear festival
- k) Other – record what they say

3) If they answer “a” for question 2, say the following and ask questions 4-10. If not, go to question 12:

Next I am going to ask you some questions about the Be Bear Aware packet you received in the mail/at your home:

- 4) Did you read the *Living in Bear Country* brochure?
 - a) Yes
 - b) No
 - c) Don't know/ don't remember

- 5) Did you watch the *Understanding Human/Bear Conflicts in Florida* video?
 - a) Yes
 - b) No
 - c) Don't know/ don't remember

- 6) Did you read the fliers *Bears and Human Food Attractants* and/ or *If You See A Bear in Your Community*?
 - a) Yes
 - b) No
 - c) Don't know/ don't remember

- 7) Have you placed your bear-shaped magnet in a visible place?
 - a) Yes
 - b) No
 - c) Don't know/ don't remember

8) Did you share any of the information you received in your packet with anyone?

- a) Yes
- b) No
- c) Don't know/ don't remember

9) *If yes, who? If no, go to question 10*

- a) Neighbor
- b) Friend
- c) Homeowner's association
- d) Property manager
- e) Family member
- f) Other (record answer)

10) Can you tell me **one** thing that you learned about bears from the Be Bear Aware packet that you were unaware of before? *This is open ended – record their answer in a succinct manner.*

11) If they answered “b” in question 2, ask the following. If not, go to question 12: What kind of presentation did you go to about bears? *Prompt as needed if they cannot remember*

- a) A presentation by the Florida Fish and Wildlife Conservation Commission (Fish and Wildlife, Game Commission, Wildlife Agency)
- b) A presentation by a special interest group (Defenders of Wildlife or other group)
- c) A presentation by my homeowner's association
- d) Other, explain

12) Did you change your behavior as a result of any of the bear information you received in the past two months?

- a) Yes- if yes, go to question 13
- b) No- if no, go to question 14
- c) Don't know, go to question 14

13) If yes, what did you change? *Don't prompt- have them answer on their own and record all answers they give*

- a) Keep garbage inside
- b) Won't feed bears
- c) Keep grills clean/outside
- d) Keep pet dishes and food inside
- e) Remove bird feeders if bears are in the area
- f) Protect garden/fruit trees/compost/livestock with electric fence
- g) Removed fruit trees
- h) Use bear proof garbage containers
- i) Put garbage out in morning for pickup
- j) Installed wood or chain fence
- l) Keep garbage cans closed/sealed
- m) Keep pets indoors when a bear is in the area (keep pet indoors).

- n) Removed water source(s)
- o) I am more careful when I see a bear
- p) I am more careful when I am outside
- q) I learned to back up slowly and not run from bears (If they say “*I change the way I would act around a bear*”, *prompt them to find out exactly how they would act*)
- q) Other (record their answer)

14) What is the best way to get important information to you about bears? *Read answers and have them choose one.*

- a) Delivered to my home by hand
- b) Mail to my home
- c) Television
- d) Radio
- e) Newspaper
- f) Presentations to my hobbiest, civic, or professional organization
- g) Homeowner’s association newsletter
- h) Other (record answer)

15) What is the best way for you to learn more about bears?

- a) Brochures
- b) Video
- c) Newspaper article or advertisement
- d) Television advertisement
- e) Television show
- f) Presentation
- g) Other (record answer)

16) *If they answer presentations(f) then ask:* What is the best way for you to find out about a community presentation in your area?

- a) Homeowners association newsletter
- b) Newspaper
- c) Direct mailing
- d) Radio
- e) Television
- f) Word of mouth
- g) Fliers in grocery store/ shopping areas
- h) Other (record answer)